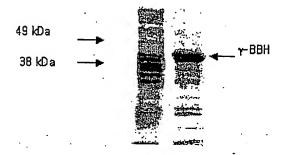
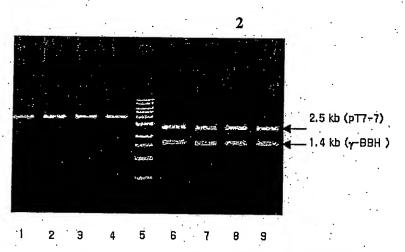
1/3 1



Lane 1 : Protein molecular size marker, Lane 2 : E.coli BL21 w/o g -BBH gene, Lane 3 : E.coli BL21 w/ g -BBH gene and induced by 1mM IPTG



Lane 1~4:pT7-7 + g-BBH plasmid digested with Nde I Lane 5: 1kb DNA ladder Lane 6~9: pT7-7 + g-BBH plasmid digested with Nde1 and Sal I

2/3

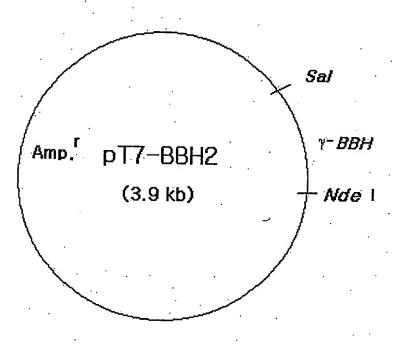
3

CLUSTAL # (1.82) multiple sequence alignment

| Human rat pseudomonas N.crassa | | |
|---|--|---|
| Human rat pseudomonas N.crassa | LLYEALDYNIGIKGLIFDRK-KYYITUPDEHVSEFQADULKKACFSKQARAKLQRELFFP 111 LLLEALDYNIRMDDLTFDQK-KYYITUPNGHYSEFEANULKROFSQEARAGLQGELFLP 111 FLYADYPEDIQYQAYTIGDDGALYYQUDDGHASAYHPGULRAHAYDAQSLA—EREAARP 11E -FPRALDSDLYUDGAYTLAETYDUTYALTEEAIDEIEAALAHFKSLNKPLGYINQETFPLP 107 | |
| Human rat pseudomonas N.crassa | ECGYWGSELQLPTLDFEDYLRYDEHAYKWLSTLKKYGIYRLTGASDKPGEYSKLOKRAGF 171 ECGYWGSELQLPTLNFEDYLNDDDHAYKWLSSLKKYGIYRLTGAADKRGEIKLGKRIGF 171 HKHRWAGGLSLPYYDHGAYNGDDDTLLEWLLAYRDYGLTGLHGYPTEPGALIPLAKRISF 178 RLHHTLRSLSHELHHGHGFKYLR—GLPYTSHTREENIIIYAGYSSHYAPIRGRQDNQ—H 164 | |
| Human rat pseudomonas N.crassa | LYLTFYGHTWQYGDKIDANNYAYTTGKLSFHTDYPALHIPPG-YQLLHCIKGTYTGGDSE 23C LYLTFYGHTWQYGDKIDANNYAYTTGKLSFHTDYPALHIPPG-YQLLHCIKGTYTGGDSE 23C IRESNFGYLFDYPSKADADSNAYTAFNLPLHTDLPTRELQPG-LQFLHDLYNDATGGNST 23T NGHPADYYLAHIKOLSTTYSDYSKIGAPAYTTEKQYPHTDAGDIYALFOLGEAAEGGGSY 224 | 7 |
| Human rat pseudomonas N.crassa | I VDGFNVCQKLKKNNPQAFQI LSS—TFVDFTD I GY———DVCDFSVQSKHK I I ELDDK 283 I VDGFNVCQKLKEKNPQAFSI LSS—TFVDFTD I GY——DVCDFSVQSKHK I I ELDDK 283 FVDGFA I AEALR I EAPAA YRLLCE—TPVEFRNK———DRHSDVRCTA PVI ALDSS 287 LSSSWKVVNELAAT RPDL VRT LAEPWYADEFGKEGRKFSVRPLLHFQSTAAAASREAKPE 284 : : : : * * * * * * * * * * * * * * * * | } |
| Human rat pseudomonas N.crassa | GQYYRINFNNATROTIFDYP-YERYQPFYAALKEFYDLMN—SKESKFTFKMNPGDYITF 340 GQYYRINFNNATROTYFDYP-IERYQPFYAALKEFYDLMN—SKEYKYTFKMNPGDYITF 340 GEYREIRLANFLR-APFQMD-AQRMPDYYLAYPRFIQNTR—EPRFCFTRRLEAGQLWCF 343 SERLIIQYARRIFTGYWGLPRSADIPPITEAQAEALDALHFTAEKYAYALDFRQGDYQFY 344 | 1 |
| Human rat pseudomonas N.crassa | DNURLLHGRRSYEAGTE SPHLEGAYAD UDVYMS RLRIL 379 DNURLLHGRRSYEAGTE SPHLEGAYAD UDVYMS RLRIL 379 DNIRTVLHARDAFDP-ASGORHFOGCYYD RDELLS RILVL 381 NNLSYFHSRAGFRDEGEKOPHLYRLULRDPENAUETPEALKERWERYYGGVSPEREYFPL 404 : : : | |
| Human rat pseudomonas N.crassa | RQRYENGN 387 RQRYENGN 387 QR 383 EPQI RSASKGESYGTQGGGGY 425 | |

(Sequences were aligned using the European Bioinformatics Institute (EMBL-EBI) sequence analysis program, clustalW.)

3/3



O

O

O

CH3

7-Butyro betaine

C-Ketog lutarate + O₂

Succlnate + CO₂

O

OH

CH3

CH3

CH3

CH3

CH3

CH3

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